ABSTRACT OF THE DISCLOSURE

An OLED display is described comprising: a) a substrate; b) one or more OLED light emitting elements including a first electrode formed on the substrate, one or more OLED light emissive layers located over the first electrode, and a second electrode located over the OLED light emissive layers; and c) an encapsulating cover located over the second electrode and affixed to the substrate; wherein the substrate or cover comprises a composite of a non-metallic layer and a metal layer, where the metal layer has a thickness between 1 micron and 1,000 microns and is thinner than the non-metallic layer. The invention enables OLED displays with improved lifetime, while minimizing need for increased substrate and/or cover layer thickness.